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Neuroscience
Ph.D. program
first year pre-candidate

Bachelor of Science in Biochemistry
University of Texas at Austin
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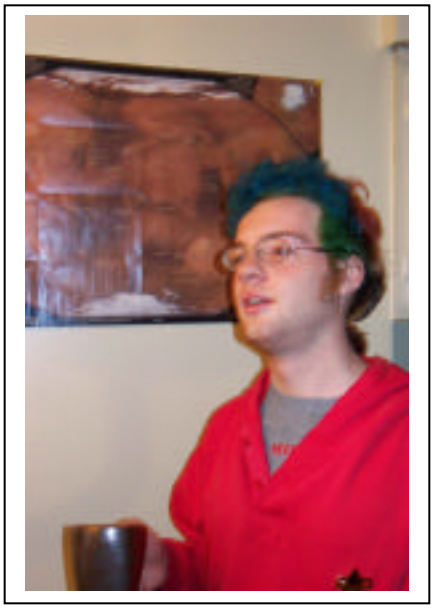
Physiology and Modeling of Neural Networks

Principal Investigator: Dr. Richard Boyle



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Experience:
I have spent most of my college life working in research labs in various disciplines of biology. My first lab experience occurred in the spring of my freshman year, where I worked as a volunteer in a protein crystallography lab. After a year hiatus during my sophomore year in which I had a night job supervising a dormitory at UT-Austin (the largest dorm in the US!), I returned to research to work in an organic synthesis lab, trying to purify a stereoisomer from a racemic mixture (the name of the compound is a slight mouthful... *trans*-2-methylcyclopentane carboxylic acid). Upon concluding the semester project, I began work in a neuroscience lab, where I spent the remaining year and a half of my undergraduate education. I investigated, both *in vitro* and *in vivo*, the feasibility of using polyethylene glycol (PEG) to repair severed nerves. For a final project, I compared the use of both PEG and cooling to extend the survival of severed spinal and sciatic axons. As the primary author, I submitted the work with my lab peers to *Neuroscience Letters*, and it was accepted. The paper should be in print within the next six months (talk about delayed gratification).

My focus in grad school is in the neuroscience of hearing and, more broadly, how sets of neurons perform tasks. My current rotation is in a systems auditory lab, where, using multi-channel recording electrodes, I investigate the behavior of the auditory cortex in response to cochlear implant stimulation.

My interest in space grew out of my undergraduate education. As the details of cell biology became ever more complicated, an obvious set of questions arose: “Could life exist elsewhere in space?” and more pertinently, “If life exists, how does it store information?”